Medical education in the U.S.
Is it supporting needed delivery reform?

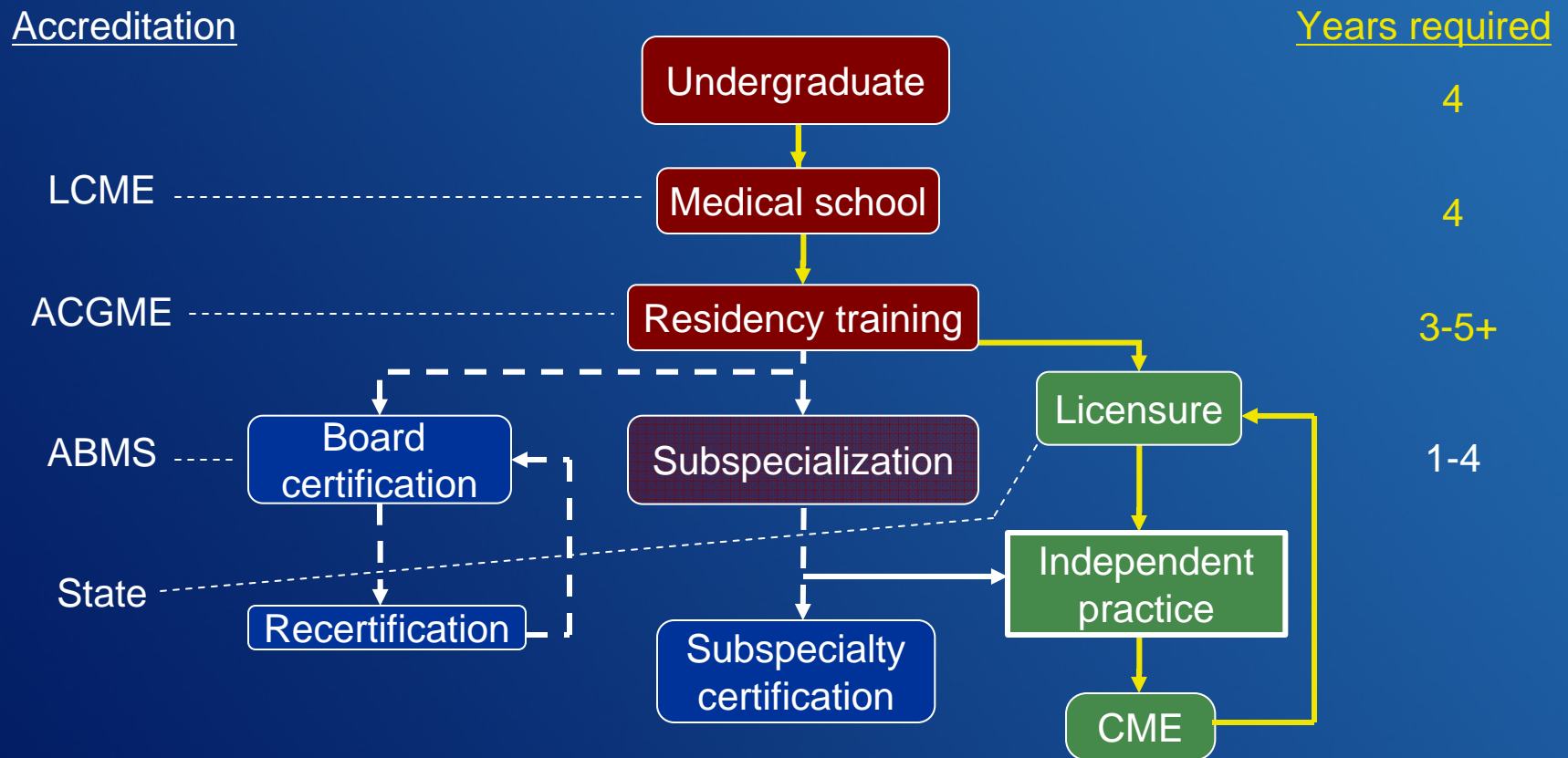Cristina Boccuti and Craig Lisk

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Overview

- Background
  - Medicare subsidy
  - Process of becoming a physician
  - Organization of accrediting agencies

- Study on curricula in residency programs
  - Particularly for skills needed in delivery system reform

- Disincentives for non-hospital experience during residency

- Future work topics

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Medicare provides substantial support for graduate medical education

- Over 1,100 hospitals receive Medicare payments in support of GME for approximately 90,000 residents and fellows

- Direct graduate medical education (GME) payments
  - Payment to hospitals for residency program costs (e.g., resident stipends and benefits, faculty supervision, program overhead)
  - $2.9 billion in 2007

- Indirect medical education (IME) adjustment
  - Payment for higher patient care costs associated with teaching activities (e.g., more tests, residents learning by doing)
  - Adjustment to inpatient PPS rates currently set more than twice the higher patient care costs associated with teaching activity
  - $6.0 billion in 2007

The path to becoming a physician

Accreditation

Years required

Undergraduate — 4

LCME ---- **Medical school** — 4

ACGME ---- **Residency training** — 3-5+

ABMS ---- **Board certification**

Subspecialization

Licensure — 1-4

State ---- **Recertification**

Subspecialty certification

Independent practice

CME

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Medical schools and graduate medical education 2007-8

- **Medical schools**
  - Over 150 accredited allopathic and osteopathic medical schools
  - Almost 86,000 students
  - About 21,800 first year students
  - New medical schools opening and class sizes growing

- **Graduate medical education (GME)**
  - Over 9,000 ACGME or AOA approved residency training programs
  - More than 110,000 residents and fellows

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Accreditation handled by different organizations

- Medical school – Liaison Committee on Medical Education (LCME)

- Graduate medical education—Accreditation Council for Graduate Medical Education (ACGME)

- Medical licenses—State medical boards

- Specialty certification and recertification—Specialty boards

- CME—American Council for Continuing Medical Education (ACCME)

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Groups represented in accrediting agencies for MDs overlap and involved in education

Type of certification	Medical school	GME	Specialty certification	Licensure	CME
Accrediting body	LCME and ECFMG for non-LCME MD	ACGME and RRCs	Relevant specialty board and ABMS	State medical boards FSMB	ACCME and state medical societies
Membership	AAMC AMA students public	AAMC AHA AMA ABMS CMSS residents public gov't obsrvr	Physicians eminent in teaching, research, patient care	Governor appoints physicians and public members	AAMC AHA AMA ABMS CMSS AHME FSMB

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Accreditation process for residency training programs

- Both the institution sponsoring training and the program need to be accredited
- Site visits once every 2 to 5 years
- Programs must meet requirements of the RRCs for individual specialties
  - Show how residents have achieved competency-based educational objectives
  - Show how programs use this information to improve the educational experience of the residents
- RRCs members review site visit reports and vote on appropriate accreditation action

Delivery system reform and medical education

- Commission has called for delivery system reforms to focus on the beneficiary, improve quality, and control spending, for example:

  - Medical home pilot
  - Hospital readmission disincentives
  - Bundled payments

  - Linking payment to quality
  - Comparative-effectiveness
  - Measuring physicians' resource use

- Medical education should support these reforms to equip students with the skills they need to deliver care under new payment policies and incentives.

- Medicare has not played a role in fostering goals and objectives in medical education curricula.

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New study on curricula in internal medicine residency programs

- Study objective: To learn about how selected curricula are presented in residency training programs

- Contracted with RAND researchers
  - 26 semi-structured interviews with directors of IM residency programs
  - Conducted by board-certified, internal medicine physician
  - Programs were randomly selected from representative sampling frame

- Focused on curricula in following topics:
  - **Practice-based learning** – measuring quality, improving medical practice
  - **System-based practice** – care coordination, cost awareness, patient safety
  - **Interpersonal communication** – with other providers, patients, family
  - **Health information technology** – EMRs, computer order entry
  - **Non-hospital care settings** – offices, clinics, nursing facilities, home

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Quality measurement and practice improvement

- **Quality assurance and improvement**
  - Most programs have some exposure (e.g., lecture) to quality assurance and system change, but little hands-on experience
  - Small shares were required to complete specific activities such as data collection, measurement analysis, and system change implementation

- **Evidence-based medicine**
  - Curricula is more consistently taught through formal sessions and journal clubs
  - While most reported teaching residents to use clinical prediction rules (e.g., pneumonia severity index), only one-third have IT to support these tools in clinical practice

Care coordination and teamwork

- **Care coordination**
  - Limited overall, with formal training more likely in inpatient setting
    - Inpatient training focuses more on provider hand-offs / sign-outs
    - Less than half of the programs formally train on hospital discharge coordination
  - Less than one-third have formal training in outpatient coordination

- **Multidisciplinary teamwork**
  - More common in the inpatient setting; less than one-third in the outpatient setting
  - About one-quarter do not have any formal experience

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Cost awareness and patient safety

- Awareness of absolute and relative costs
  - One-quarter of the programs have formal instruction on costs of tests and treatments; focus is on hospital costs
  - One-quarter instruct residents about patients' share of costs

- Safety
  - All programs include some formal instruction in patient safety issues (e.g., prevention of falls)
  - One-quarter teach basic safety design principles (e.g., designing standardization methods)

Interpersonal communication – formal sessions

- With other health professionals:
  - Half of the programs train on communication skills between health care providers

- With patients:
  - Most, but not all, train on how to communicate clearly with patients about diagnoses and treatment plans

  - Less than half train residents how to counsel patients on regimen adherence and behavior change

  - Special circumstances
    - Most, but not all, train on how to communicate end-of-life issues

    - Most have at least a session on cultural competency

    - Half provide instruction on how to adapt communication based on patients' health literacy

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Health information technology (IT)

- **Electronic health records**
  - All programs provide some exposure to EMR, but experience with comprehensive EMRs is relatively rare

- **Other health IT functions**
  - Computer order entry is present in less than half of the inpatient settings; one-quarter of the outpatient settings
  - Limited exposure to health IT tools such as clinical decision support, discharge coordination, and outpatient coordination

Training in non-hospital settings

- **Residents spend minimal amount of total time in non-hospital settings**
    - Most, but not all, programs have clinic or office-based rotations; but program directors stated clearly that it was a small portion of the total residency experience
    - More than half have residents perform home visits
    - Many require experience in nursing homes or rehabilitation centers

- **Little experience with patients in managed care**

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Factors affecting programs' instruction in selected topics

Program directors cited:

- Presence/absence of IT

- Amount of faculty expertise and time

- Institutional support (from the sponsoring teaching hospital)

- Program's setting

- Resident baseline characteristics

- Relative lack of information on best educational methods for these topics

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Summary of study findings

- Although most programs provide at least some training in selected topics essential for delivery reform, overall, curricula falls far short from that recommended by the IOM and other experts

    - Concerned about lack of formal training and experience in:
        - Outpatient care coordination
        - Multidisciplinary teamwork
        - Awareness of health care costs
        - Comprehensive health IT
        - Patient care in non-hospital settings

    - Programs more consistently include instruction on evidence-based medicine and communication about end-of-life care

- Several factors affect programs' ability to train in selected topics – some from the residency program and others from the sponsoring teaching hospital

Hospital setting in residency training

- Medicare makes GME and IME payments only to teaching hospitals for medical education subsidies.

- Residency programs are largely based in acute-care teaching hospitals or medical schools tightly affiliated with teaching hospitals.

- Residents spend most of their training time involved with inpatient care.

- Yet, most of the medical conditions that practicing physicians confront are, and should be, managed in non-hospital settings (e.g., offices, nursing facilities, homes).

Financial incentives discourage teaching hospitals from training residents in non-hospital settings

1) Residents provide valuable hospital services (e.g., on-call duties)
   - Paying non-resident (higher-wage) staff to perform these duties is more expensive

2) Hospitals lose direct GME payments proportional to the time that residents spend off-site in educational, non-patient care activities

3) Hospitals lose both direct GME and IME payments proportional to the time that residents spend in settings that do not have a specified affiliation agreement

4) Hospitals incur paperwork burden keeping track of all the residents' hours from various sites

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Issues for future examination – from this work

- ## Curricula
  - Ways to establish requirements or incentives for enhancing particular curricula and technology in the medical education continuum

- ## Non-hospital experience
  - Mechanisms for ensuring more residency training in non-hospital settings

Current Medicare subsidies for graduate medical education

Empirically derived

IME

Higher inpatient costs

Extra

Direct GME

Resident costs
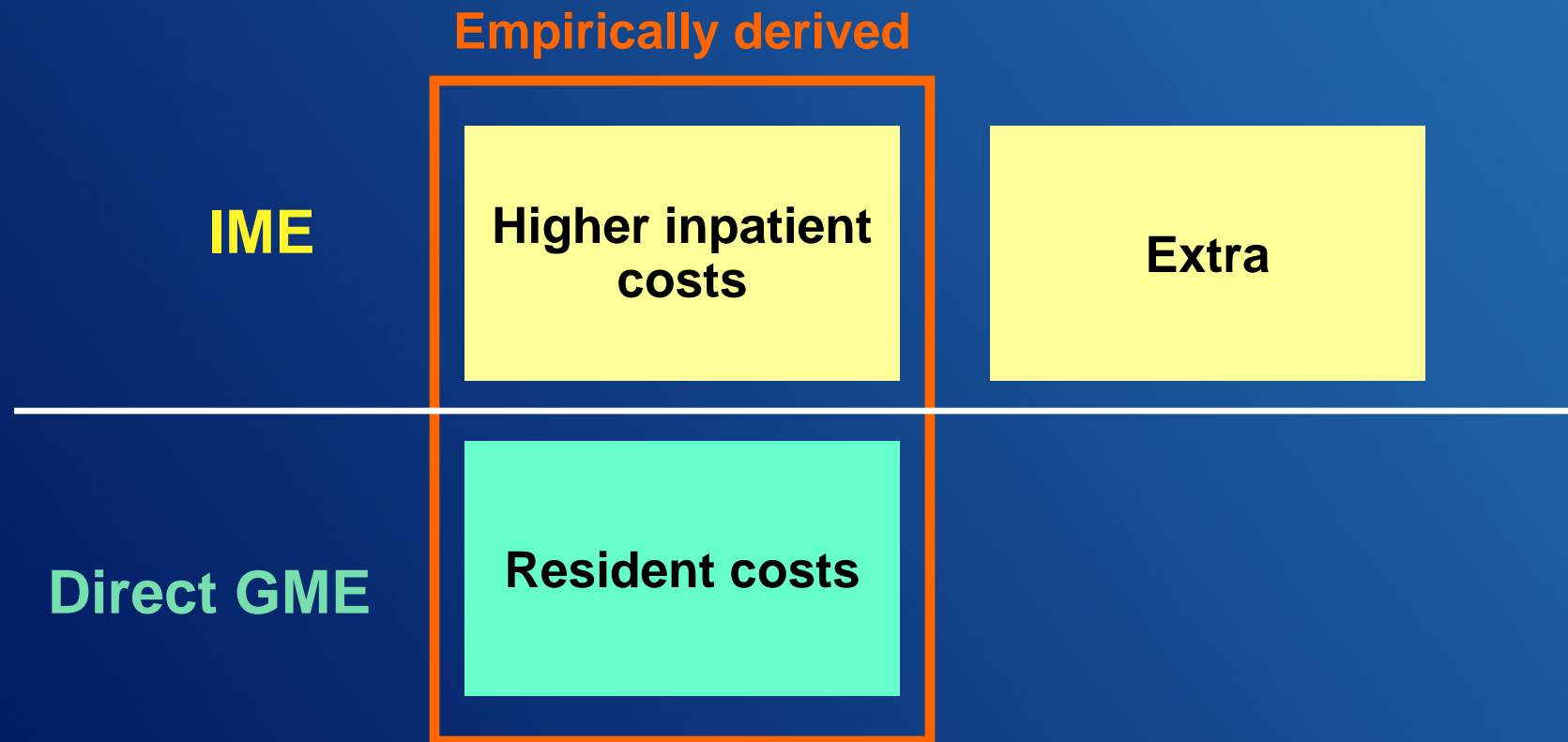
Issues for future examination – further work

- Linking delivery system reforms to medical education subsidies
- Contributions to medical education from other payers
- Independent board that distributes medical education funds
- Incentives for generating most efficient mix of generalists and specialists
- Nurse training opportunities
- Training in geriatric health issues across specialties
- Loan forgiveness policies
- Public service requirements
- Medical school admission criteria to promote goals (e.g., diversity)

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